

## Tennessee Pollution Prevention Partnership Success Story



GM SPRING HILL MANUFACTURING

GM-Spring Hill  
Manufacturing Facility  
P.O. Box 1500  
100 Saturn Parkway  
Spring Hill TN 37174  
931-486-6009  
www.gm.com



www.tp3.org

### Powertrain and Body Shop Major Energy Upgrades

#### The Member

GM-Spring Hill Manufacturing Facility is an automotive manufacturing complex of about seven million square feet. Located in Spring Hill, a growing community located 40 miles south of Nashville, the plant lies within the borders of Maury County.

Currently, the site manufacturing operations consist of an engine plant making 4-cylinder engines, a stamping plant, a polymer injection molding operation, and one painting operation for bumper fascias. These manufactured engines and other components are supplied to various GM assembly plants across the globe. Production of a new 4-cylinder engine is scheduled to begin in mid-2012. GM just recently announced that Spring Hill will also begin assembling Chevrolet Equinox vehicles to supplement current production at other plants in 2012.

#### The Story

Spring Hill Manufacturing replaced over 3000 High Pressure Sodium and Metal Halide High Bay Light fixtures in the new LGE Engine facility and Existing Body Shop with lower wattage T5 and T8 fluorescent fixtures. Nearly 1000 high bay fixtures were completely eliminated. Wireless controls were also included, allowing individual fixtures to be grouped and light levels adjusted to 2, 4 or 6 lamps by group. We expect to use the fixture controls to reduce light output when daylight conditions allow and/or when certain areas are not actively in use.

Spring Hill Manufacturing also installed new controls on 18 air handling units in the Polymers and Stamping areas. The controls will allow for reliable starting and stopping of air handlers, as well as promote their efficient operation through the use of an economizer algorithm (using outdoor air when conditions are favorable), as well as better control of the natural gas burners and mechanical dampers. We expect to further leverage the new control system to reduce summer electrical demand peaks.



#### The Success

Site Lighting redesign and upgrades eliminated nearly 1000 high bay fixtures and replaced over 3000 HID fixtures with T5 and T8 fluorescent fixtures, saving 7,130 MWH/yr.

Stamping/Polymers Air Handler Upgrades will save 1,400 MWH/yr.

The total energy savings is 8,388 MWH/yr, with a resultant utility cost savings in excess of \$500,000/yr.

#### The Pollution Prevented

The total annual emissions reduction from utility savings is 5764 tons CO<sub>2</sub>, 20.1 tons SO<sub>2</sub>, and 5.0 tons NO<sub>x</sub>.

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